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No. 13.

CONTRIBUTED ARTICLES

A New Bee-Cellar—How to Construct a First-Class Winter Repository.

BY T. F. BINGHAM.

THE view of the roof covering my practically air-tight bee-cellar is well illustrated by the cut. It is 20 feet wide and 20 feet long, and, as shown in sectional view, very steep, affording a large room for work above the cellar. But, what is of more value to the bees, the room is dark. It is into this room that the cellar is ventilated, or from it the bees receive the air they use without taking it from the unwarmed air outside. [See sectional view on next page.—ED.]

The sectional view shows the ventilator as passing up thru the roof in the middle of the floor. This is correct, all but in that the ventilating-tube, which is a three-inch tin conductor reaching from the bottom of the cellar two feet above the floor over the bees, does not directly reach the outside.

The value of this modifying room will be better understood by the fact that it is in reality a part of the cellar, and not merely a roof. The cellar is in all respects a cistern. It is 16x16 feet on the level of the ground, and 12x12 feet at the bottom. The sills are 2x12 inches, and 18 feet long, and lie flat in the cement of which the sides and bottom of the cellar are composed. The roof, as you will note, extends below the level of the ground, and discharges its water into board conductors leading to lower ground.

The floor above the cellar is 2 inches thick, composed of dry inch boards. Three inches of dry pine sawdust covers this floor. Every corner and crack thru which air could circulate is closed with Portland cement. Three trap-doors are of the same thickness as the floor, and an easy stairway leads to the cellar. The hives are in rows on all sides, three high, directly over each other, leaving an open square in the middle of the room.

The square hives stand on their regular bottom-boards, and have a back and front entrance 11 inches by 7/8, with no possible upward ventilation or communication. The roof is made of tamarack (larch-tree) boards, one foot wide, and battened with the same kind of lumber 6 inches wide, and covered with coal tar.

The cost every one will want to know. It was from \$50 to \$55. It now holds 90 colonies and would hold 90 more if necessary.

The ventilating-tube reaching to the bottom of the cellar proved to be a failure. While

it supplied cold air, and kept the temperature all right, it failed to dilute the carbonic gas, and has been taken out. Only the three-inch hole in the upper floor has been used for the last month, and seems all right. The extreme variation in the cellar has been 4 degrees, being below 50 1/2 the time, but no time as low as 45 degrees.

Feb. 14.—Bees O. K., 47 degrees. Out-doors, about 6 degrees. Death-rate about 2 pounds of dead per month, for the 90 colonies. The last sweeping gave an increase of 1/2 pound. They are swept out every twelfth day of the month, and the dead weighed. They were put in the cellar Nov. 12. Clare Co., Mich.

[As I have said elsewhere in this issue, I believe it is to be one of the cheapest and best repositories ever devised. The scheme of having a gable roof and a good, thick frost-proof floor over the cellar, the latter below ground-level, is most excellent. The objection to the cellars of ordinary dwellings is, that about two feet of the cellar is above ground; and in the two feet of wall there is liable to be one or more windows thru which cold and light enter. By the Bingham plan, the whole, or practically the whole, of the repository is under ground. This thick frost-proof ceiling or floor overhead, further protected by a gable roof, makes almost an ideal protection.

Incidentally it is interesting to note how little ventilation, if the temperature is right, is required. I hardly need say that Mr. Bingham, the inventor of the smoker, honey-knife, and hive bearing his name, is a man of no ordinary ability. He is a fine mechanic himself, and a practical bee-keeper; and whatever he says is good, is good in my estimation.—EDITOR.]—Gleanings in Bee-Culture.



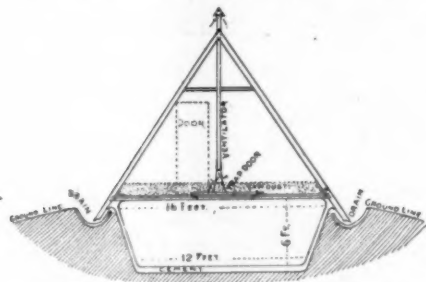
The New Bee-Cellar of Mr. T. F. Bingham, Clare Co., Mich.

Some Questions Answered—Ripening Honey, Etc.

BY G. M. DOOLITTLE.

QUESTION.—What is the best plan of ripening honey where we can not afford to wait until it ripens in the hive? If an extra building or anything of the kind is required, I wish to prepare for it this winter, or in early spring.

ANSWER.—If you must ripen honey out of the hive, I know of no better way of doing it than to place it in tin cans holding from 200 to 300 pounds each, allowing these cans to remain in a temperature which can be maintained at from 90 to 100 degrees of heat for a month to six weeks, leaving the top of the can open, and tying cloth over it to keep out the dust and insects. If you have the means, and are in a hurry to have the honey ripened, it can be done by slowly running the honey over a zigzag evaporator, which is kept at the proper temperature by heated water, steam, or



Sectional View of Bingham Bee-Cellar—See previous page.

lamps, so that it will be ripened fast, and yet not scorch or change the flavor of the honey. But let me advise you to let the bees take care of this ripening part.

I am not sure that there could be any locality or circumstances where "we cannot afford to wait" for the bees to ripen the honey in the hives. We used to think we could not afford the combs to use in tiering-up hives that were necessary to wait till the end of the honey season, but I think this was a mistake. Not affording the combs, the bees had to remain partially idle while the honey was being sealed, which was a loss in time, so the honey was extracted every three or four days, when it was thin and unfit for use; but in these days of comb foundation, much the better way is to tier up the hives, adding foundation as needed, letting the bees seal the honey as far as possible, when it is to be brought into a warm room, if so cool in the fall to be necessary, and, when thoroly warmed, it will be little more work to extract it than it would be were it taken from the hive when two-thirds sealed, as was considered the proper thing years ago. Honey obtained by this tiering-up plan is superior to that secured in any other way, increasing the demand for extracted honey in the markets, instead of decreasing the same as did the honey of 15 to 20 years ago.

INCREASING THE NUMBER OF COLONIES.

QUESTION.—I wish to increase my bees to 50 colonies next season. I have 17 colonies now to do it from. I should like to know the best way to do it and still get some surplus honey.

ANSWER.—A large increase of bees, and "some surplus honey" at the same time, is something which is not very likely to occur, especially with a novice at the business. Still, there are ways in which it is sometimes accomplished. One of these ways would be to let the bees swarm naturally, hiving the first and second swarms, returning all those which come out after the second. Put sections on the first swarms, hiving them in contracted brood-chambers; and if the swarms came early enough in the season, put sections on all of the old colonies as soon as the young queens commence to lay.

A still better way would be to keep the colonies from swarming as much as possible, hiving the few swarms which did come in contracted brood-chambers as above, and six days after the swarm issued divide the old colony into nuclei, with a queen-cell for each. Occasionally, as needed, to keep those not having swarmed from taking the swarming-fever, take frames of brood from them and give to the nuclei, thus building them up into strong colonies. Replace the frames of brood taken with frames filled with comb foundation, thus preventing the building of drone-

comb. If successful as you should be, seven of the colonies swarming would give all of the increase needed to make the 50, thus leaving 10 to roll up all the surplus honey they possibly could, were the same 10 worked for no increase, provided you do not draw brood from them more than to keep down the swarming-impulse.

WHICH WAY SHOULD HIVES FACE?

QUESTION.—Which way should hives front, all things considered, in order to obtain the most profit from the bees? East, west, north or south, where they are wintered on the summer stands? and which way when they are wintered in the cellar?

ANSWER.—Some seem to think that it makes no difference which way the hives face when they are on the summer stands, but I think otherwise, especially in the winter. I have had hives facing almost all points of the compass, and those doing the poorest faced the north, while those facing south to southeast invariably did the best. I have lost colonies in winter facing the north, when those facing south and southeast would have good cleansing flights, and be in good shape for another long cold spell, the others not flying at all on account of the sun not shining on the entrance, hence they died with diarrhea, as it is called, by not having a chance to void their excrement.

Again, in summer bees in hives facing the sun will generally work longer each day than will those whose entrances the sun never shines upon.

Once more, the prevailing winds are from the southwest to north in this locality, and where hives face the west or north, more stores are consumed in keeping up the heat of the cluster where the prevailing winds blow directly in at the entrance, carrying off the heat generated by the bees.

Then, again, in all windy days the bees can reach the entrance readily when the hives have their backs toward the wind, while if faced toward the wind they are blown from their doorway, time and time again, before they can strike just right to partly fly and run in. This last part was what caused me to say that I would never face any hive, even during summer, in any other direction than south by east.

But to the other part of the question. If I am to understand by the latter part of the question that the inquirer thinks that it makes a difference which way the hives face while in the cellar, I can only think he is making a mistake, for I can not see how it can make any possible difference in a cellar of even temperature and total darkness. If there is a window in the cellar which admits light, it is better to darken the window; yet at my out-apiary cellar the people don't want the cellar dark, so I face the hives toward the wall and away from the light, when they winter very nearly as well as they do here in my perfectly dark cellar. Yet, if I am right, it is conceded by all that a perfectly dark cellar tends more toward a successful wintering of bees than does a light one.

Onondaga Co., N. Y.

Experiences of a City Honey-Salesman.

BY S. A. NIVER.

WHAT strange game one sees when he has no gun." That wise saw is forcibly brought to my mind as I meet the many strange notions people will persist in advancing as good argument when I am showing honey with the hope of selling a big (or little) order. Your average dealer hardly "knows a honey-bee from a mudwasp," but is well posted on just how artificial comb honey is produced, and what large quantities are sold of "the stuff" every year!

Only last evening I overheard a clerk telling a lady customer that you could easily tell when comb honey was genuine—"by noticing the number of layers in the comb." (I just held my breath to catch the rest of it.) "But whether it is one or two layers that show it to be genuine honey, I have forgotten." Simply another case of, "Good indigo will either sink or swim, and I don't know which."

The good old way of sitting down to a long visit to inform your customer thoroly is costly, and many times impossible on account of the rush of business; besides, these city grocers only like to sell just what is called for, seldom calling a customer's attention to something new and especially desirable.

Another woefully ignorant and intensely annoying individual is that near-by bee-keeper, who doesn't take the bee-papers, but just loads in his honey, and goes towards the city selling his honey four or five cents per pound

cheaper than quotations. One chap of this class lost enough this year in that way to pay for a bee-journal for 75 years.

Say, Mr. Editor, can't you think of some way to get people who frequent saloons to take honey in place of "booze?" Great Scott! what a market that would open up. One man said that if I would bring around honey in a jug or beer-keg, "so as to look kinder nateral," I might sell lots of it. He did not label his remark "sarkasm," as Josh Billings did, but it sounded that way a bit.

"Why is honey so seldom seen on restaurant tables?" I askt of the cashier where I took lunch. He was a roly-poly Dutchman, and smiled at me in stupid tolerance. Showing him a sample of as fine extracted honey as one could ask for, and getting him to taste it, I actually imagined I had created a favorable impression. He took a liberal taste, then smiled in his broad, stupid way, and muttered, "Glooco—all glooco. Dot real honeyey is in leedle comb-cells—never coom loose like dot. Dey don't got him oudt onct yet." I went away from there. Life is so short to post up all these poor human critters who never heard of an extractor.

That makes me think, Mr. Editor, that your lecturing before the schools has been followed up by Mr. Hershisser, of Buffalo, who was engaged by the school board to give a series of lectures before different schools in that city. Why can't you persuade that exceedingly modest lawyer bee-keeper to write up that experience for the benefit of all bee-keepers? He said: "Oh, I am not given to tooting my own horn," when I askt him to tell us his methods, conclusions and impressions of that way of educating the coming citizen to eat honey.

In a small grocery an old lady was the only occupant that I saw, so I askt her if she kept honey in stock for sale. She replied, "We do;" while a loud voice from behind a pile of flour, in unmistakable Kilkenny accents, says, "I do." He had plenty of honey on hand—that nice clear "honey" in tumblers, with a piece of comb in it, which never granulates, and sells cheap—and he knew it was pure honey, for he went to his wholesaler and saw him take the honey right out of the combs, and if I would go I could see them do it every day in the year! How does that strike you, Mr. Editor? Extracting honey in a wholesale grocery house in February, thermometer down to zero! But I accepted the gentleman's statement, and moved on, searching after more advertisers in the same line.

The pure-food law may help out some if a determined effort is made by somebody to enforce it; but who is that somebody? And is it likely to prove a boomerang, by frightening grocers into refusing to sell *anybody's* honey, under any circumstances?

The problem of getting honey to the consumer at a price which will make it a competitor of sugar and syrup, has so many factors to it that a solution seems far in the future, if it is ever accomplished at all.



NO. 4.—COMB HONEY PRODUCTION.

Putting on Supers—Clipping Queens—Age Limit—Controlling Swarming—Crowding the Brood-Nest.

BY R. C. AIKIN.

WE have considered methods of encouraging breeding, and of getting the brood in the best shape and position in the hive. Following the lines indicated will have each queen produce almost as many bees as she could well do, tho there will almost always be a few colonies that become so weak in winter as to be unable to build up to good ones. If care has not been taken to supersede aged and weak queens, such will cause a few additional weak colonies.

As the flow is just ready to begin, or has begun, the colonies that are to store the surplus must be prepared and supers put on. We have come to a time when we do not care for very free laying by the queen, *unless* there be a second flow. If the crop is to come from one flow, and that only, no attention need be given to increasing brood when once the flow has arrived, but instead turn all effort to getting the most honey possible.

Every colony that works in sections must be strong. I would select those that are already strong enough to work in supers, and give them their supers first. Those that are almost strong enough I would help up by adding bees from

a weaker one, taking from the weak one both brood and bees, leaving only enough bees to care for brood as the queen will lay. In selecting the brood to take, pick out much ripe brood, or that which will give to the colony to which it is to be added the greatest number of workers in the shortest time. In this way unite and build up to super strength as many as possible, the weak ones being left to build up again to full colonies.

I favor the practice of clipping the queens—I clip and recommend it. That is a job best done in the spring, or early enough to have done with it before the colonies become very strong. Clipping serves us in several ways: It gives the apiarist somewhat more liberty, for he can feel that if he must be absent awhile, and a swarm issues, it is not lost (the loss of a queen at this time is unimportant; it occurs when there are hundreds of good young queens going to waste; it is practically no loss unless brood is wanted for a later flow). As soon as a swarm issues provision is made to let them hive themselves as the apiarist may wish, and they will return and enter a hive much quicker, and with much less labor, than if hived by taking from a tree or other clustering-place; and also there is much advantage in keeping track of the age of queens.

It is almost impossible to know how old a queen is unless clipt. The practice of clipping gives the apiarist an insight into the age limit and supersedure methods of the bees, that he would scarcely get in any other way. Of course, a record is a part of the system—should be of any system.

In the years gone by much has been written at times about clipping queens and how it damaged them, of how they were more apt to be superseded, etc. Now I have handled hundreds upon hundreds, yes thousands, both clipt and unclipt, practicing methods that required much close inspection of the internal working of the colony, and surely if clipping caused damage to queens and undue superseding, I ought to have found it out. I have found out much about conditions that favor superseding, but those clipt do service just as unclipt, and so long as they are good.

Well-bred queens are good for two full years' work, and the great majority for the third year. A queen hatcht in the early part of the season, so that the year of her hatching she does much breeding, is aged and very uncertain her third summer. Hatcht in mid or late summer she will complete that year, all the next, and make a good colony for the next honey season after that, when she ought to be superseded. Don't expect a queen to do more than two hard summers' service. Many will be good for longer, but enough will not to make it unprofitable to risk keeping longer.

Having reacht the active season when supers are on the strong, and those that have been help to proper strength, the next great care is to keep the honey-gathering going, and not too much swarming. Here comes the place that of all the season requires skill, prompt and intelligent work. If you have failed in getting the colony to proper strength, you can partially remedy the matter by uniting, but if you fail in handling the work properly in the storing of the surplus, you have a poor product that can never be remedied. To fail in getting strong colonies is to lessen the quantity of the crop, and to fail in management when the harvest is on is to damage the quality and lessen the price.

As already taught in these articles, some things help to keep down the swarming-fever, and having practiced these, and natural conditions favor you besides, you should be able to run for 10 days to 2 weeks of a flow with very few swarms; but if general conditions have been favorable to swarming, you may expect wholesale swarming almost simultaneous with the coming of the flow unless you have striven against it. I am so successful now in the preventive measures taught hereinbefore, that I can usually depend upon a week to 10 days of a flow with a very few if any swarms any season.

I have never been in the basswood regions, nor experienced more than a very limited flow from this source, but I gather from reading that a basswood flow lasts only from one to two weeks. Any honey-flow that is harvested in two weeks' time ought to be, and *can be*, manage with very little swarming. Flows lasting longer than two weeks are more difficult to handle successfully. Remember this, *previous management of the colony has much to do with controlling swarming*, and to control swarming means much in both quantity and finish of the honey.

Never allow a colony to become crowded in the brood-chamber. This may result from various causes. A colony that has just enough bees to nicely handle the brood-chamber and send out a reasonable field-force, will crowd the

brood-chamber *regardless* of sections and room above. A flow that comes rapidly, giving the bees all they can do—a flow that just keeps every bee to all it can do, and for two weeks or more, will get super-work from many a colony that in a slower flow would not touch the sections.

When all the conditions of weather and nectar-secretion are favorable, almost any colony will do fair work; but as these conditions are wanting, the greater is the demand for other helps, such as strength of colony, bait-combs, and all the little encouragements we can give. To have all these helps, and then come the favorable weather and flow, and the apiarist has what is known as a paying crop—one of the record breakers that astonish the tenderfoot, and even the apiarist himself—to look after the details pays first, last and all the time.

A weak colony will crowd the brood-chamber in a good flow, a medium colony will do the same thing in a medium flow, and a strong colony will *just do the same thing* in a very light flow, or one that is very long-drawn-out, coming in *very slowly* for a long period. These are facts that we must consider, for just as we ignore them we detract from our success. The results we may rest assured will be according as these factors stand in relation to each other, and it is the science of apiculture applied, to bring the greatest number of favorable factors to bear at one time.

Larimer Co., Colo.

Safe Introduction of Queens—Building Up.

BY C. T. BONNEY.

THIS is one of the most important manipulations in apiculture. Upon it depends the improvement of stock (which is all important); upon it depends the queen-breeder's business almost entirely. If a plan of introduction could be found that would always guarantee safe introduction of queens, it would perhaps help as much as anything else to make the apiarist master of his trade.

A number of plans of introducing queens have been given to the public in the past, all, or nearly all, of which have been successful in a measure, but it seems that no plan yet introduced is always successful. I have used every plan that I have ever seen recommended, and have had good success with some, yet I have sometimes failed with all, but the plan which I now use has never failed, no matter what the conditions of the bees were. I got the idea from Mr. Doolittle's "Scientific Queen-Rearing," only I carried it a little farther. The plan is as follows:

Go to the hive to which you wish to introduce a queen, take out the present queen, smoke gently and jar the hive until the bees have filled themselves with honey, then shake about half the bees into a box 15 inches square, with wire-cloth sides; set the box away in some cool place until the bees mourn for a queen, which can be told by the bees hurrying around the box in every direction, as if greatly excited. Then introduce the queen by dropping her in at the top; the bees will at once accept her, and form a cluster.

Let them remain so for some time, then shake them in front of the hive whence they came, and let the queen and bees run in, smoking the hive gently.

I have introduced queens by this method at a time when there was no honey-flow, and queens not laying, and have never yet had a failure. Queens coming a distance, when treated thus, will lay sooner than by the caging plan, and are not so liable to be superseded.

I treat laying workers in the same way, only the bees used are taken from some strong colony, care being taken to get as many young bees as possible, and a queen that is laying. Smoke the hive containing the laying workers thoroly, and run in the bees and queen, and the work is done. Bees treated thus will stay anywhere.

It might be well to add that the best time to take the bees out is in the morning, and run them in in the evening.

This is also the best plan I have ever tried to build up weak colonies: Take one or two quarts of bees from some hive that can spare them, cage them for eight or nine hours, then run them into the weak colony, giving a frame or two of brood at the same time, and the effect will be magical. A weak colony will be turned into a strong one almost at once. I believe it a wrong idea to overburden a weak colony with brood, as it does not give them a good chance to defend themselves. They should have bees as well as brood. If there is any quarreling (which there will not be once in a hundred times) give tobacco-smoke until you quell the riot.

Marion Co., Oreg.

CONVENTION PROCEEDINGS

Report of the Colorado State Convention.

[Continued from page 182.]

THE USE OF COMB FOUNDATION IN SECTIONS.

Mr. Pease introduced this subject by saying there was no danger of using too much. He uses a wide strip at the top, and a narrow strip at the bottom.

Mr. Thompson—I experimented a little last season on the width of the sheets. In one super I had alternate rows of full sheets coming as close to the wood on each side as could be got in conveniently, and full sheets cut rather narrow so as to be $\frac{1}{4}$ inch away from the side. The sections containing the wide full sheets were much better filled than those containing the narrow full sheets. It made more difference in the filling of the combs than anything I have ever tried.

Mr. Martin—I would recommend using full sheets, tho I always use foundation in proportion to circumstances. I always fasten both the top and bottom of the sheet.

Mr. Thompson—Don't the combs bulge?

Mr. Martin—No.

Mr. Thompson—Do you use separators?

Mr. Martin—Yes.

Mr. Thompson—I tried virtually the same thing for pinching together a full sheet with a bottom starter, and those sections all bulged more or less. But they were not used with separators.

Mr. Martin—It is something of a trick to fasten foundation in my way, and I would not advise any one to do so unless he does it right.

F. Rauchfuss—Does it pay you to use full sheets?

Mr. Martin—I would use as much as I could. I mean I wouldn't run in debt for foundation. One reason I fasten both the top and the bottom is, it makes the combs better for hauling. I can put in one full sheet quicker than a full sheet and a bottom starter. I fasten it by pressure.

Pres Aikin then called for a rising vote on full sheets vs. starters. Five were in favor of full sheets.

Mr. Pease—I believe in using full sheets, but don't do it.

Mr. Porter—It is the same with me.

Mrs. Hood—The results are better, but they cost.

Ch. Adams—The advantage in using a bottom strip is greater than that of using a full sheet.

Pres. Aikin—All in favor of using full sheets rise. (18, and none opposed.)

Mr. Porter—One thing we must always look out for in fastening is a sufficient amount of heat.

Mr. Lyon—It should be enough so that the foundation is seen to be melted where it touches the wood, so it squashes out a little. To get an abundance of heat I substituted a student-lamp for the little lamp that comes with the Rauchfuss machine, and lower the flame when the wick is too great.

Mr. Adams—The hot plate should be manipulated so as to get the wood warm.

Ch. Adams—That is just what I want to avoid.

H. Rauchfuss—Keep the wood cool and the wax hot. If the wood is hot, the foundation will pull down when the section is turned over.

J. B. Adams—The boy that works my machine works slowly and needs less heat. He does not turn the section over until the foundation is cool.

H. Rauchfuss—Last summer I had a 14-year-old boy fold, fasten in foundation, and put in the supers 1,000 sections in half a day. He was not so quick as I have had them. I have had 1,500 sections put up in that time. With my machine, one has to work fast to do satisfactory work.

Mr. Lyon—There should be lots of heat, and I think a larger burner should be used, which can be turned down if it gets too hot. The section must not get too warm.

F. Rauchfuss—The foundation should be as cool as possible. A bucket of cold water is handy to keep the can of foundation in, covered up.

Mr. Lyon—That is a very important point. The foundation should be cut early in the day. I keep mine in a can until it is wanted.

Mr. Porter—I use a refrigerator.

Pres. Aikin—My machine works on the same principle as the Rauchfuss. I have found the section and the foundation can both get too warm. The foundation should be kept from wiggling while it is cooling.

HONEY-PLANTS FOR COLORADO.

Mr. Harris urged the importance of considering new honey-plants which might be adapted to Colorado conditions, and suggested yellow sweet clover, which blooms a month earlier than white, and fireweed.

F. Rauchfuss—We have yellow sweet clover here already.

H. Rauchfuss—It blooms before alfalfa. A field of it near me was cut, and died in the forefront of July. It doesn't live as long as the white.

Mr. Porter—In regard to fireweed, it grows only where a fire has cleared the brush. Since the land has cleared, it has disappeared. To grow that here would be like introducing cleome to Michigan.

OFFICERS AND COMMITTEES.

Officers for the ensuing year were then elected, as follows: R. C. Aikin, President; Ch. Adams, vice-president; F. Rauchfuss, Box 378, Denver, secretary; Mrs. R. H. Rhodes, treasurer; W. L. Porter, member executive committee.

Messrs. Cornelius, Crawford and Jouno were appointed a committee on exhibits, and Messrs. Pease, Harris and J. B. Adams a committee on supplies.

The committee appointed to confer with a committee from the Horticultural Board on the next program reported that the committees had jointly decided that both the horticultural and the bee-keepers' meeting should be held on the same days, and that at 2 o'clock of the first day the bee-keepers should adjourn to meet with the horticulturists to listen to a lecture of interest to both, secured by the horticulturists, and that at 2 o'clock of the second day the horticulturists should adjourn to meet with the bee-keepers to hear a similar lecture arranged for by the latter. This report was adopted, and the committee retained.

H. Rauchfuss—Prof. S. J. Hunter delivered a lecture to the horticulturists to-day on the relation of insects to the fertilization of blossoms, that did us more good than anything I have ever heard. Every bee-keeper should get a copy of the horticultural report, for the sake of that lecture.

HIVE-COVERS, BOTTOM-BOARDS AND SUPERS.

Mr. Root, by request, then exhibited two hive-covers and a bottom-board he had with him. The bottom-board was a combined stand and bottom-board, with a sloping front serving for an alighting-board, and the part of the bottom-board coming under the hive had a gentle slope from rear to front, so as to make a large entrance. One of the covers had fine grooves on its top near its edges, so as to prevent rain-water from flowing over the edge and into the hive. The other was of two pieces, with a third piece above over the joint of the others, the three being so grooved to correspond with each other, that the shrinkage of the upper piece would draw the two lower pieces together, and keep the joint tight. The springs in the new supers were also exhibited.

Mr. Gill—I think a great deal of the springs for this dry climate. I have used them in 800 supers.

TIERING-UP SUPERS.

Mr. Gill—A great deal of honey is lost by improper tiering. A colony that needs a super needs it badly. A great many bees could be employed in a second super that would otherwise be idle. They should be watched closely. I always put the additional super under the first one. It is necessary to know the condition of each individual colony at least once a week.

Mr. Thompson—For the last three years R. D. Willis has come to rely more and more on tiering-up by adding the additional super above the first one. I found, when in Utah, that Mr. Geo. Hone does so. He is one of the best bee-keepers in Utah. I still felt incredulous about it, as the other Utah bee-keepers think Mr. Hone gets good crops because he is a good bee-keeper anyway, and that he would get one-fifth more by following the orthodox plan. Since returning here I have learned that H. Rauchfuss is dropping into it also, and I begin to think there is something in it. I would like to call on Mr. Rauchfuss to give the reasons for his doing so.

H. Rauchfuss—A great many times unfinished sections

are obtained by the practice of adding the super below. But judgment is needed in applying the other method. I would not recommend it in all cases. When the super is three-quarters full, and there are good prospects for more, I would put the added super under the first one. If there was any doubt of the flow continuing, such as would be caused by hail or drouth, I would put it on top. If you use only starters, without bottom starters, and the bees are slow, put it on top. But if full sheets with bottom starters are used, and the bees boil up when the quilt is thrown back, or work up on the bottom starters of the new super an hour or two after it is put on, then the super should be placed above. But I do not leave it in that position. When the first super is almost finished, then I alternate them. The honey is not stained with propolis nearly so badly when this method of adding the new super above is followed.

Mr. Martin—My experience is about the same as that of Mr. Rauchfuss. I have previously used the ordinary method, but during the last year or so I find it doesn't always pay. I want to take off the honey as soon as it is capt. By this method the bees are kept at work building comb, and at the same time the sections are finished quicker.

Mr. Brewer—I have a glass hive with glass supers, and have seen the bees working in all three when the supers were added on top. If only one or two supers had been given them, they would not have had room.

Mr. Martin—The ordinary method is very good to get the bees in the new super, but the other brings down the number of unfinished sections to as small a number as possible.

Mr. Brewer—I have stacked the supers six high that way.

H. Rauchfuss—I have had six supers on a colony at once by the ordinary method, but the outside sections were not finished. One season I ran a colony with not more than two supers on at once. That colony gave 252 pounds of comb honey.

Mr. Moon—I hardly ever tier up more than two. I don't believe the hanging out of bees in front does any harm. They are curing their honey. I don't think it a good idea to give them more room than they will employ.

Mr. Martin—One objection to raising the super to put a new one under is that the work of capping in the upper super is hindered while the bees are building comb in the lower one, so that both are finally capt at once, and the work is retarded. I like to have the honey capt quickly with nice, clean wax. When the bees are capping and drawing out at the same time, the capping is not done so readily as when the super they are capping is below. Those bees that lie around are the ones that build the combs. Bees build comb on the outside of the hive sometimes.

Mr. Harris—How many practice baiting the bees up into the super when the first super is put on? (Mr. Brewer and Mr. Cornelius responded they did.)

Mr. Cornelius—The first new super that is occupied I break up and distribute among the other supers, bees and all. It seems to start them.

H. Rauchfuss—If the colony is not in the right condition they will hang out even if they have nothing else but combs. It happens frequently that some of the best colonies are comparatively idle in the best of the flow. I remember one instance when they hung out after I had added supers, I don't know why. I have had colonies alongside not half as strong that finished two supers. In that case, bait sections would do no good. The condition of the colony counts far more than the bait, tho I use bait sections.

Mr. Harris—Often a bait section with a little honey draws them up.

H. Rauchfuss—That shows the colony is in the right condition.

Mr. Martin—Sometimes I have stubborn cases of lying out, and the bees will not cap the corners of the sections, and make thin combs. Such a colony should be requened. I usually give it extracting-supers. If stubborn, I give the super underneath a few days, and then put it on top.

Mr. Brewer—Have you ever tried withdrawing one comb and putting in a blank?

Mr. Martin—Yes, but I thought it not successful.

The committee on resolutions offered resolutions of thanks to the press and to the Board of Capitol Managers, and then the convention adjourned subject to the call of the executive committee.

FRANK RAUCHFUSS, Sec.

The Premiums offered on page 173 are well worth working for. Look at them.



CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

(The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.)

Feeding Sugar Syrup in Spring.

What would be the result to feed with syrup before the spring honey-flow commenced, so that the brood-chamber would become filled and the bees would be forced to carry all new honey into the upper chamber? Would it produce an inferior quality of bees being fed on anything but honey while maturing?

MASSACHUSETTS.

ANSWERS.—Some have claimed that bees reared on sugar syrup would lack stamina, but the fact is not established with entire certainty, and many have had bees reared on syrup without mentioning any difference in the quality of the bees. Caution is needed, however, in feeding syrup largely in early spring. If the weather is objectionable, the feeding may induce bees to fly out and be lost, making more loss than gain. If there is too much syrup in the brood-chamber, there is some danger that some of it may be carried into supers after they are put on.

Plan for Avoiding Swarming.

I have 25 colonies of bees in good condition. I expect to be away this summer and would like to avoid their swarming, and would like to know if this plan will work:

I have 15 hives, each holding 17 frames with a division-board in the center, and a queen and two bees on each side of the division-board, but isolated thoroly. Now suppose I go to the hives filled as above, and between fruit-bloom and white clover, or about the first of June, and pull out the division-board and put on the supers at the same time, and close the hive. Will they swarm with two queens present, or will one queen be killed, if they would swarm?

I expect to give this a trial, and then about the first of August take off honey, and put in the division-board as before, and give a good ripe queen-cell to the side having no queen. By this way I could have a new queen in the hive this year, that is, if the old one was always killed. I have never read of a plan of this kind, and have thought it out myself.

PENNSYLVANIA.

ANSWER.—One of the queens would most likely be killed, but the entire plan may not give as much satisfaction as you expect, and it will be well to try it on part only.

Late Feeding—Italianizing.

Last winter I kept my 5 colonies in our cellar which has brick walls, cement floor bottom, with lath and plaster ceiling, and did not lose a colony, and the winter was the severest we have seen for many years. Last fall I had 14 colonies, and the fall and early winter being so nice, I left them on the summer stands until to-day (March 3), when on examining I found only 4 alive. Thinking they would need some feeding soon, I put them into the cellar, and gave two colonies sugar candy made from a recipe taken from the "A B C of Bee-Culture." The other two colonies are in box-hives, but judging from the weight of them they are better fixt for stores; they were my first ones, or the first hives I had; for the others I used the 8-frame Langstroth.

Most of those that I lost were rather small colonies, and nearly all had plenty, or some, honey. I am under the impression that they froze out, as the temperature got 14 degrees below zero about Feb. 15 to the 20th. I had them in an orchard on a southwest slope with a good north and west windbreak.

As last season was a poor one here in northwest Nebraska, the late swarms did not store enough to winter on, so I fed them until it got too cold. I have the Champion or Miller and the tin feeders.

1. Do you think feeding until it got too cold would be injurious to them? I used a syrup made of granulated sugar.

2. One of my surviving colonies are blacks or hybrids, that I captured from a cottonwood tree near by. Which will be best to give them, the first queen-cell from one of my Italians, or give them a queen? There are not any bees within 15 miles of me, and as I like to work with them I would like to do better than I have this winter.

There are not much of any clovers or buckwheat raised here, and no basswood, but lots of heartsease and wild flowers. I have 5 or 6 acres of alfalfa, and have sown and got a good start of white clover. About June 1, 1898, I had a swarm issue (while at dinner), and go into a box-hive with the brood-chamber nearly filled with old, empty comb. They filled the brood-chamber and stored 54 pounds of surplus honey, which I thought was doing pretty well. The alfalfa was about all they worked on.

W. H. R.

ANSWER.—1. Feeding too late might certainly help toward destruction. Better get feeding done in August and September. Too much swarming was probably a chief trouble. If your five had increased to 10 instead of 14, you would probably have had more this spring.

2. So far as Italianizing is concerned, it will make little difference whether you give a queen-cell or a queen, providing you get them to use the queen-cell. But of course they will be farther on with a queen. A good way would be this: When an Italian colony swarms, set the old hive in place of the black colony, setting the blacks in a new place. Then the Italians will swarm again, giving you a strong swarm with a good queen.

A Beginner's Questions.

1. When is the earliest in the morning bees will swarm out?

2. I have heard bee-men say they could tell the night before they swarmed. How could they?

3. How can I prevent a swarm from going away?

4. If you go to a hive in the morning how can you tell whether it will swarm before night?

5. Will a swarm that runs away ever come back if it can find no place to suit it?

6. When a swarm is going to alight on a high branch, how can you prevent it, and make it alight on a low one?

7. Do bees ever come out of a hive after you have them?

8. How can I prevent them?

9. Will bees swarm on a cloudy or windy day?

ONTARIO.

ANSWERS.—1. Generally you need not look for swarms before 9 o'clock, but in rare instances they may swarm as early as 6.

2. They probably referred to afterswarms, not prime swarms. About 8 days after the prime swarm, if you go to the hive at night, put your ear against it and listen, you may hear the queen piping, saying in long, drawn-out and rather shrill tones, "peep, peep, peep." If you hear that, you may look out for a swarm the next day. If there is no piping you need expect no swarm the next day.

3. Let the hive be well shaded and well ventilated, having it raised up from the bottom, and for the first day or two it may be well to have the cover raised half an inch or so. Some practice giving to a swarm a frame of brood to hold them.

4. You can't. If other colonies are working hard, and a strong colony seems idly hanging out, you may suspect an intention to swarm, but you cannot be certain. If you find sealed queen-cells in the hive at the usual season of swarming, a swarm may issue within 24 hours, but not positively.

5. No. It will fly around in the air some yards or rods from the hive, and finally settle on a tree or some other object. After being thus settled, if it starts to sail away, you may take your last, long, lingering look at it—you'll never see it again. Better have it before it starts off; but you needn't fear its going for some little time; generally it will wait your motion a quarter or half an hour.

6. Pretty hard job, after it has fairly made up its mind to settle on any given spot. If you "shin up" the tree lively with a well-loaded smoker, and smoke heavily and continuously on the spot selected, they may change their minds about settling there. Some induce them to settle on an accessible limb by hanging on it a lot of dead bees strung like beads on a string.

7. Alas, yes. Set the hive out in the blazing sun, hav-

ing, it closed up with only a small entrance, and they will be pretty sure to come out. Put them in, and they will probably stay till it gets hot the next day, and then out they'll come again.

— 8. See answer to question 3.

— 9. A prime swarm is not likely to come out in bad weather, but will hardly mind a little cloud or wind, and an after-swarm may come out in almost any kind of weather.

Cover for Over Brood-Frames—Slow Breeding.

1. What would you use besides the thin board cover in your hives, over the brood-frames, to keep the bees warm in the spring? The dovetail hives that I have do not fit so tight but some cold air gets thru in the spring.

2. What would you do with a colony of bees that do not seem to breed fast enough in the spring to expect them to gather any honey, such a colony having honey enough so as not to need feeding?

WISCONSIN.

ANSWERS.—1. Most of my hives have the plain board cover, which is not very thin, $\frac{3}{4}$ inch, and that is the only thing over the top-bars. Something warmer would be better, and I have in use (expect to have more) 50 covers that are made with a dead-air space in them. The worst thing about the ordinary plain board cover is that in time it will warp and twist so it will not lie close on the hive. However, you ought not to have much trouble in spring, for the bees will fill with glue all openings in the fall, and they should at that time be so well stored with honey that they will not need to be opened early in spring.

2. If they have all the brood the bees can cover, that's all you can expect. If they could cover more brood than they have, you may hurry up matters in more than one way. The frames that have brood very likely have a border of sealed honey above the brood; uncap or bruise this, so the bees will empty the honey and allow the queen to replace it with eggs. If there is no honey over the brood, put next to the outside frame of brood a comb of honey with the cappings broken. Another way is to lift out the middle frame of brood, and turn it end for end. Or reverse one or both of the outside frames of brood. But remember, remember, that you may do a lot more harm than good by meddling with the brood-nest in cool spring weather, or at a time when a cold snap may come after your meddling.

The National Pure Food and Drug Congress.

BY REV. E. T. ABBOTT.

THE third annual meeting of this congress, which was held in Washington, D. C., March 7, 8 and 9, was in many respects the most interesting and profitable meeting that has ever been convened for the discussion of the subject of pure food.

The writer, who went to represent the interests of the National Bee-Keepers' Association, made the trip over the lines of the Missouri Pacific and the Pennsylvania railroads. As both of these lines are thoroly equipt for the handling of passengers, and have a national reputation for speed and comfort, it is not necessary for us to say that the ride was as pleasant and enjoyable as any railroad ride can be.

As we reached Washington at 1:30, and the congress was called to order at noon, we did not hear the addresses of Secretary of Agriculture Wilson and his assistant, Secretary Brigham, but we heard both of the addresses spoken of in the highest terms. A number of excellent addresses were delivered, and among the many speakers was Senator Mason, of Illinois, and a number of congressmen from various parts of the United States. Several valuable additions were made to the ranks of pure-food advocates, and among them were two congressmen from our own State—Champ Clark and C. F. Cochran. We think we are safe in saying that the friends of pure food can depend upon Mr. Cochran's splendid ability being thrown on the right side when the final battle comes on the floor of the house. He made a ringing speech before the Food Congress.

One of Mr. Clark's sallies was as follows: "I regard this pure-food congress of vaster importance than even a national political convention called for naming a president, for we can live in this country under almost any kind of a president, as has been demonstrated within my recollection. But we can't live without food. There is no doubt but that a man's eating has a lot to do with his top piece."

Altho this is only his second term in the house, there is probably no man on the floor who can command a more respectful and attentive hearing than Mr. Cochran. He has the reputation among his fellow members of being thoroly posted on all public questions, and of never talking simply for the sake of being heard, so that when he does speak his hearers always expect him to throw some new light on the subject under discussion, and they are seldom disappointed. Mr. Cochran is a man who attends very closely to the business he has in hand, so that he is always found in his seat during the sessions of the house, looking closely after the interests of his constituents, and the "common people" in every part of the United States. Just now there is a heated campaign going on in his own district, and most men in his situation would be at home looking after their "political fences," but he prefers to stay in Washington and attend to the business of the people who sent him there.

The thing of most importance to our readers is to know what the Food Congress did. First, they raised nearly \$6000 on the floor of the congress to wipe out a debt which had accumulated on the hands of the executive committee during the year for necessary and unavoidable expenses.

Second, they made some slight changes in the Brosius Bill, as it was drafted by the congress of two years ago. These changes were thought necessary after mature deliberation, to strengthen the bill and render it more effective if it ever becomes a law.

Third, we fought to a finish one of the most exciting and closely contested fights that the writer has ever witnessed in a deliberative body. There was an attempt made by some parties who had never before attended a meeting of the congress, to sidetrack the Brosius Bill and substitute one of their own making, known as the "Babcock Bill," in its place. They came prepared for "war," and they got it from start to finish. We are glad to say that when the finish came the Babcock Bill was hung up high and dry, and the Brosius Bill was pushed to the front stronger than ever.

The main secret of the enthusiasm for the Babcock Bill was that it hangs out several political plums for the enthusiastic henchmen, while the Brosius Bill does not offer anything of the kind, but leaves the execution of the law in the hands of the secretary of agriculture, where it should be.

One quotation from the Babcock Bill will show clearly that it proposes to place dangerous power in the hands of one man, who is to be known as "food commissioner," at a salary of \$5,000. It reads as follows: "The food commissioner is here authorized to cause all compound, mixt or blended products, not only to be properly branded, and prescribe how this shall be done, but he may designate the color or colors and shape of packages, labels, printing, and wrappers containing the same." When we think of putting such dangerous power in the hands of any man, and then of the temper of the man who was slated, according to the program of these would-be reformers, for this position, we feel like saying, "Praise God that the Babcock Bill was not a go."

We now call upon all bee-keepers, and all who believe in fair play, and all who believe that the secretary of agriculture is competent to fill the position to which he has been appointed, to write to their congressman at once and urge upon him the importance of supporting the revised Brosius Bill as indorset by the National Pure Food and Drug Congress to the exclusion of all others; for there will no doubt be an attempt to get the infamous Babcock Bill substituted for the Brosius Bill in the house and senate. Simply say, "Pass the revised Brosius Bill," and sign your name. Every congressman will know what that means when he gets it on a postal card from one of his constituents.

We thought we would tell more about the congress this time, but we have said enough for the present. The time for talking has gone by, and the time for action has come. The time for the people to act. DO IT NOW.

We might say in conclusion that the house committee on interstate and foreign commerce invited the food congress to a hearing before them, and we appeared there over one hundred strong. A number of speeches were made by different members of the food congress. The writer had the pleasure of presenting the subject of pure food in behalf of the bee-keepers of the United States. We were greatly pleased by the thoughtful attention which the committee gave to all the speakers, and the deep interest which they manifested in the subject of pure-food legislation. This hearing can not fail to be productive of much good to the country.—Modern Farmer.



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NOTE.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Hive Question—A Correction.—An editorial in a former number of this journal, referring to the views of L. Stachelhausen as given in *Gleanings in Bee-Culture*, says he was led to the conclusion "that for extracted honey a large hive is best, and for comb honey a small one." Referring to this in *Gleanings*, Mr. Stachelhausen says:

"Certainly I did not mean to say this. For the welfare of the bees and their proper development it makes no difference whether the bee-keeper extracts the surplus honey or takes it off in the form of filled sections. If a small hive is ill-fitted in this respect for extracted honey, it can not become better for comb honey. By the present management we can not use the advantages of large hives in producing comb honey, so we can form only one conclusion, and that is, *the present management is incorrect.*"

"The problem is to find out a management by which all advantages of large hives can be utilized, and at the beginning of the honey-flow to get the colony in such a condition that the work in supers is started at once, and all the honey stored there—that is, to get the brood-chamber in the best possible condition."

Alsike Clover.—The Warren (Ind.) Republican contains an address by Dr. I. A. Smith, in which he discusses alsike clover in a somewhat exhaustive manner. He makes a bushel of seed sow about 8 or 10 acres, and says:

"As I sow chiefly with oats as a nurse crop, my rule is to wait until March 25 before sowing my oats. After this time I begin sowing as soon as the soil is in suitable condi-

tion, using shallow cultivation, never plowing immediately before as some do, but usually by disking, dragging and harrowing, so as to get the surface fine and mellow, the finer the better, and sowing the clover behind the finishing harrow, being sure, wind or no wind, to sow before any rain falls upon the freshly harrowed soil; this is very important. If the land is in suitable condition, as in case of having been fall or winter plowed, I prefer to use a good, sharp drill for putting in the oats, and sow the clover immediately behind the drill; I have had the best success in this way."

Alsike stands drouth and close grazing better than red clover, and heaves less with freezing. When firmly established it may be freely pastured till early September. Many fields have kept in thrifty condition for three years, one field for five. A persistent stand is favored by cutting the first and pasturing the second. It should be cut in full bloom, but later cutting is not so objectionable as with red clover. He considers it a better fertilizer than red clover.

Rietsche's Foundation Press has obtained a popularity that is surprising to an American, there being now 16,000 such presses in use. In this country comparatively few bee-keepers make their own foundation, the number of such being perhaps less now than a few years ago. Germans are probably more saving of outlay, but another item makes a difference that would not generally be suspected. It is that a bee-keeper in Germany who does not make his own foundation may buy that which is adulterated. Such a thing is never suspected in this country, the manufacturers of foundation being entirely reliable. Adulteration is not all confined to America.

"No Wax-Moth in Colorado."—Prof. C. P. Gillette, of the State Agricultural College at Ft. Collins, Colo., sends us the following about the moth that infests comb honey there:

On page 154, I notice that Mr. Aikin and Mr. Rauchfuss state that the wax-moth does not occur in Colorado, and Mr. Rauchfuss can not understand why people should claim that Colorado honey is sometimes infested with these insects.

It seems to me that two insects are probably being confused. So far as I know, the old-fashioned wax-moth does not occur in Colorado, but there is a smaller moth that is generally distributed over the country, commonly known as the Mediterranean flour-moth, which I have repeatedly seen infesting honeycomb. The larvæ of this insect do not seem to care for wax or honey, but feed upon pollen, and perhaps propolis as well. The larvæ are sometimes quite troublesome on stored frames of old comb, and I have seen them in crated sections of comb honey.

Both the larvæ and the moths of this species are considerably smaller than the old wax-moth.

C. P. GILLETTE.

Uncapping Honey in the Spring was recommended in a paper by D. W. Heise at the Toronto convention, and reported in the *Canadian Bee Journal*. When there are yet only two to four frames of brood in a colony, he raises each of these frames sufficiently high so the honey along the top-bars and in the corners can be uncapped. This helps the bees to the honey, and allows the queen to fill the comb with brood to the top-bar. If there is no honey between the brood and the top-bar, he places a comb of honey next the brood on each side, first uncapping it. In the discussion following, Mr. McEvoy said:

"I have followed the uncapping system off and on for 17 or 18 years, and I have made it pay after I got right into it and understood pretty near how to do it, but I have had it go the other way at times. I have always made it pay between fruit-bloom and clover. There is a gap at that time in most localities, and it pays to uncup some. I have uncapped sometimes too much, and have made a mistake, but just to uncup two or three combs in an evening in the bare time in order to supply them with unsealed stores and to feed the larvæ, in this way I get the honey used up rapidly,

and I increase in bees. A little later on I uncap more. Old bees will not uncap the old sealed honey fast enough, when they are caught suddenly, to keep pace with the amount of larva on hand; then it pays to look after uncapping or bruising.

"This year (1899) I went thru the colonies three times between fruit-bloom and clover, and with 95 colonies I had it so arranged that almost every frame was filled with brood clear up to the top-bar, and from end to end to the outside wall. Did it pay? Yes; I never did anything in my life that paid so well. I would not advise every one to do it; some might go on a morning of a spring day when there was not much required and uncap too much. You must use judgment."

Selling Candied Honey is nowadays advocated by a number, the idea in general being that the consumer shall be educated to liquefy it. J. H. Martin, in *Gleanings in Bee-Culture*, brings out a point that may be worth considering. There are some who prefer honey in the candied state (possibly their number might be found greater if honey were always sold in that condition), and those who eat candied honey by preference eat more of it than they would of the liquid.

The Age at Which Young Bees Become Field-Workers is generally called 16 days, but there is by no means unanimity of opinion on the subject. L. Stachelhausen discusses it in *Gleanings in Bee-Culture*. He thinks it depends upon the condition of the colony. Prof. Menzel found bees commencing to gather pollen when 18 days old; Berlepsch found in three experiments the first gathering on the 16th day, and a few years later he observed them on the 19th day. Doenhoff found the 19th day. Others the 12th and 14th. A. I. Root said about two weeks, but if necessary when only 5 or 6 days old. Neither is there agreement as to the average length of life of workers in the busy season. It is given all the way from 30 to 45 days. The age at which larvae are sealed is another disputed point. Menzel, Cowan and Vogel give it at 5 days. Greiner, 5½; Langstroth, 6; Root, between the 6th and 7th day.

The Weekly Budget

HON. EUGENE SECOR, General Manager of the National Bee-Keepers' Association, has been appointed judge of the apianian exhibits at the Minnesota State Fair next fall. "Judge" Secor will give entire satisfaction to the Minnesota bee-keepers. He always does.

MR. J. H. MARTIN says in *Gleanings in Bee-Culture* that Belgian-hare growing has grown to be a business of importance, the head center of the business being at Los Angeles, Calif. A number of bee-keepers have given up bees for hares, and Mr. Martin thinks the two industries might well be combined.

MESSRS. R. McKNIGHT AND J. B. HALL.—The Canadian Bee Journal for February contains this paragraph from the pen of Mr. D. W. Heise, which refers to an incident at the last Ontario convention:

"Whatever justification there may have been for the unpleasant things that were said about Mr. McKnight's opposition to certain convention proceedings in the past, he truly endeared himself to every bee-keeper's heart when he brought his 'appropriate and inspiring' motion that J. B. Hall has been the 'life and soul' of its conventions. And what J. B. Hall has been to the conventions, R. McKnight has been to the Association; and no one can recognize that fact more forcibly than the members who were associated

with the earlier history of the Association. And I feel sure that the present members are not so forgetful, or so void of appreciation of valuable services rendered, but what they will in the near future, in some way reward him for his services."

STENOG APPROVES THE "OLD RELIABLE."—He says:

"Mr. York deserves great praise for the excellence of the mechanical part of his journal. Its freedom from typographical mistakes is quite in keeping with the high moral tone of the journal."

Coming from the man who is mainly responsible for the fine mechanical appearance of *Gleanings in Bee-Culture*, such endorsement pays for a good bit of effort.

MR. T. F. BINGHAM—the bee-smoker man—has sent us his new smoker made of brass instead of tin, and with the nozzle hinged on. It is a beauty, tho we believe we would prefer it made of tin in the usual way. We think the brass is not so stiff as the tin, but it will likely not burn out so soon, and will not rust. But if a Bingham smoker made of tin lasts 15 years, what more does anybody want? Surely, any bee-keeper would want a new smoker at least two or three times during his life.

MR. FRANK MCNAV, now in Los Angeles Co., Calif., wrote us March 18, as follows:

FRIEND YORK:—There has been only one light rain (about one inch) here since Jan. 3, and bee-keepers have given up hopes of a honey crop from sage, and are moving to the irrigated alfalfa sections, as that is about the only prospect for a honey crop in Southern California this season.

I expect to return to my Wisconsin apiaries about May 1. FRANK MCNAV.

THE CHICAGO BEE-KEEPERS' ASSOCIATION, as announced on another page, will meet in Wellington Hall, 70 North Clark St., Chicago, Friday afternoon and evening, April 6, beginning at 1 p.m. (April 6 is the correct date, as the hall was engaged for the day before). Dr. C. C. Miller expects to be here; Editor E. R. Root writes that he will make an extra effort, and, if nothing interferes, "will be on hand." F. A. Snell says: "I shall aim to be present, if I can do so." J. A. Green wrote: "It is quite possible that I may attend the meeting." F. Wilcox, of Wisconsin, says: "I may be able to get away to your convention." Dr. Mason and Mr. Secor both wrote that they would try to write and send a paper on "What can local bee-keepers' associations do to help the National?"

It is expected that there will be a large attendance, particularly from this (Cook) and adjoining counties. No special individual notices will be sent out by Secretary Moore, as it is thought best to let the announcements in these columns suffice for this time. Let all come who possibly can do so, and help make it the best meeting ever held by the Chicago Bee-Keepers' Association.

EDITOR LEAHY, of the *Progressive Bee-Keeper*, has more experience than he had six or eight years ago, along the line of publishing bee-papers. We recently announced the "passing away" of the *Western Bee-Keeper*, and express our regret that there should be any one so bereft of reason as to think of starting a new bee-paper these days. As a comment on this, Editor Leahy wrote thus in the last number of his paper:

"Don't do it, friends. It will only use up your surplus money, and you will be glad to get some one to help you let go. The *Progressive* was run at a loss three years before we assumed control. We ran it at a loss for two or more years; then two or three years more it barely paid expenses; and now, after ample experience, we are satisfied that the same money and time invested in almost any other legitimate business, would pay much better."

Mr. Leahy, in the same editorial, rather disapproved of our "jumping onto something that is dead"—referring to the *Western Bee-Keeper*. Wouldn't it hurt anything worse to "jump on it" when it is alive, or nearly dead, than to wait until it is past feeling? Of course, it is often a mercy to help hasten the death of some things, and yet if we had done that, some people would have unjustly accused us of being jealous of the poor little *Western Bee-Keeper*.



Honey-Poultices.—For boils, carbuncles, abscesses, etc., and for injured bones, mix the honey with flour, and spread on a piece of linen rag. If the abscess is coming to a head, cut a hole in the center of the rag to allow of free discharge of matter. Honey added to an ordinary bread-poultice will answer the same purpose, or it may be used in conjunction with linseed-meal poultices; it will render them more emollient.—British Bee Journal.

Weak Colonies in Spring.—J. B. Hall says in the Canadian Bee Journal:

"My experience of over 20 years is that if you take weak colonies and put them into three you will still have three weak colonies; if you shut them down and don't meddle with them at all there will sure to be some of them that will come up and be good colonies, and the others that are no good will die out, and if you put them together one of the poor queens may be saved. We don't open them except they are hungry; we don't open a colony of bees in our yards until the fruit blossoms. We let weak colonies die if they choose."

More Hopeful of Cuba.—Editor Hill refers to the report of G. Rockenback in this journal as the bluest yet given, and says:

"Reliable information in regard to the apicultural outlook in Cuba is now of interest to bee-keepers everywhere, and it is gratifying to note that resident producers of honey take a much more cheerful view of the situation than the Journal's correspondent, whose article clearly shows that he would not be clast in the language of the hour, as an 'up-to-date bee-keeper.'"

If Mr. Rockenback's testimony is thought hardly reliable, what will Mr. Hill do with Harry Howe's, which was given on page 185, last week? Mr. Howe's simply corroborates Mr. Rockenback's, or is even stronger.

Reform Spelling in Gleanings in Bee-Culture is given up for the present, and a Stray Straw says:

"Now that immediate danger of violence to English spelling in Gleanings is no more, and that Mr. Wanser, who wants spelling progress to 'emanate from our public schools and colleges,' may not be too severe if he should happen to see 'honor' for 'honour,' or 'clipt' for 'clipped,' it may be well to say that the changes he opposes with so much earnestness have not emanated from a few cranky ignor-amuses, but have emanated from colleges. The changes were recommended by some of the most eminent scholars of America and England, among them professors in Yale, Harvard, University of Pennsylvania, St. Johns, Columbia, etc., in this country, and, in England, in Oxford and Cambridge."

Fertilization of Fruit by Bees was discussed by Frank Benton at the Ontario Co. (N.Y.) Bee-Keepers' Convention, as reported in Gleanings in Bee-Culture. In part, he said:

"An apple-blossom has many stamens, and the pollen is produced at the extreme end of each one, forming there an enlargement called 'anther.' A single anther contains one million or more grains of pollen, of which but five are needed for the fertilization of one blossom. A raspberry blossom is built differently from the forenamed one. The raspberry (fruit) is composed of some 200 separate little sections, each containing a seed, and so the blossom is constructed in a like manner. What will later be the fruit is already present in an embryo state, 200 little sections in miniature, and from each of them protrudes the pistil, like a fine short hair. A grain of pollen must be conducted thru every little hair—really a tube, the end of which is receptive thru the organ called 'stigma.' A bee, after alighting on a blossom of this kind in search of honey, which is to be found at the base of the blossoms, rubs over the anthers with its body, which is covered, especially on the under side, with many hairs of a compound feather-like nature, and becomes covered with the pollen-dust. Whirling around, first one way then another, in order to reach fully all the nectar-secreting glands, it brushes again and again over the 200 protruding pistils. One bee after another vis-

its the same blossom at short intervals as long as the secretion lasts; and in time every one of the stigmas receives its grain of pollen, and a perfect fruit results.

"During the earlier part of the season, when pear and apple trees bloom, the weather is often unfavorable for pollination—the pollen remains too moist and sticky. In such a case, not much fruit can set. Should the sun come out for but an hour, the pollen becomes dry. The bees turn in; and the more numerous the bees are, the more fruit will set. There may be seasons when fruit would set abundantly without the help of the honey-bees. In an unfavorable season, however, they are an absolute necessity. Cross-fertilization is strictly necessary for raspberry, gooseberry, and huckleberry. When the bee visits a blossom of the last-named kind, and pushes its body into the bell-shaped flower, it seems that the stamens are so arranged that the white pollen is dusted upon the head and thorax of the bee. The bee is unable to remove the dust from these places; and when the next blossom is entered, the head and thorax of the bee come in contact with the stigma first, and before the anthers are touched, and in this manner cross-fertilization is assured.

"It would take too much space to go thru the long list of flowers benefited by bees. However, bees are not the only agents to perform this work. There are other insects and the wind. In the early springtime bees are most numerous, and therefore indispensable."

Cure for Bee-Paralysis.—After many trials with different drugs I found ultimate success with a mixture of sulphurous acid and tincture of podophyllin in the proportion of one of the former to four of the latter. I wanted a purge and an antiseptic for after effects, or in other words, something that would expel the excrement and leave the intestine in a condition afterwards not conducive to the growth of bacilli.

To ½ ounce of this mixture I added one pound of extracted honey heated to 90° Fahr., and then with a mouth-spray I daily sprayed combs, bees, brood, etc., as I took frame after frame out of a diseased hive. I applied the remedy in this way, as I found it the easiest to get the bees to take the medicated honey, each cleaned up her neighbor and combs, and thus unintentionally imbibed the dose required. Result: In from 3 to 5 days a clean, healthy hive.—The Australasian Bee-Keeper.

Artificial Increase.—When an increase of not more than 50 percent is desired, with a chance for a goodly store of surplus, the following excellent plan is given in Gleanings in Bee-Culture, by G. M. Doolittle:

"About 8 to 10 days before your expected honey-flow, go to a populous colony, which for convenience we will call No. 1, and shake all the bees and queen from their combs into a hive filled with empty comb or frames filled with foundation, placed where the old one stood, placing the surplus arrangement from the old hive on the colony thus made. In this way you have a strong colony containing all the bees and queen from one of your very strongest colonies, a hive full of comb or foundation, and the partly filled sections from No. 1, all being in readiness to take advantage of the harvest as soon as it comes. Now take the combs of brood taken from No. 1 to No. 2, and set them on No. 2's stand, having previously moved No. 2 to a new stand a rod or two away. Just before setting the combs on the stand of No. 2, go to one of your nuclei and get the comb the queen is on and take it, bees and all; and as soon as the combs are on the stand of No. 2, shake the bees and queen from it in front of the hive on No. 2 stand, and let them run in with the bees from No. 2, now hovering about trying to find their old home. Put sections on this hive, and the work is done. Thus you have a colony composed of a full hive of combs and brood, a good young queen, and workers to protect her, and all the field or working force from No. 2, which make a big, strong colony ready for business as soon as the honey harvest arrives. No. 2 has a hive of combs and brood, their old queen and sections partly filled, but they have lost their working force. In from 8 to 10 days they are quite well stocked with workers again, when they are also in fine shape for the harvest which is now on.

"I have told you this plan at length as you wish it made plain, and because I consider it the best plan of artificial increase in existence. If you wish a greater increase, go thru the same operation again just after the harvest, less the sections, and see that No. 1 is fed in some way, or supplied with combs of honey."

Root's Column

GLEANINGS IN BEE-CULTURE.

THERE are some things every bee-keeper must have, and we believe no one can expect to succeed as a bee-keeper without reading one or more good papers devoted to this industry. Gleanings in Bee-Culture will not only keep you posted on all important topics but is always on the alert to bring to its readers' notice new methods proposed by able writers, new implements for labor saving, and everything by which a larger and better crop of honey can be secured. We believe it pays to use a superior quality of goods, and there is no doubt but what improvement can be made in the appearance of honey by use of the BEST methods. Gleanings tells you of all these and tells you where to market your honey after you get it, by our HONEY COLUMN. Our market reports are ALWAYS UP-to-date, and can be DEPENDENT upon. We know of many beekeepers losing a good crop of honey by sending it to some irresponsible party. Avoid this by subscribing to Gleanings and getting the best MARKET REPORTS.

Some bee-keepers like to take a bee-journal during the honey season only; some want to try it a few months before subscribing for a longer time. To accommodate such we offer Gleanings in Bee-Culture SIX months beginning April 1st for ONLY 25 CENTS. There will be many important things brought out in its columns during the coming six months. Do not fail to send an order at once for this time.

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GENERAL ITEMS

Wintering Well—No Snow.

Bees are wintering finely. We have no snow, and have had but little this winter. When the west had the blizzard, and were buried up in snow, we had a warm rainstorm.

HENRY ALLEY.

Essex Co., Mass., March 15.

Changeable Weather.

It looks very much as if we are just now getting our winter in this part of the State. We had had but very little snow thus far this winter until to-day we have 7 inches and the merry sleigh-bells can be heard far and near, with the thermometer hovering around zero. Bees are not wintering very well, as the weather has been very changeable, with the thermometer up in the 60's one day and the bees flying as in early spring, with a sudden change to a cold wave in 24 hours of from 30 to 40 degrees. My loss of bees will be greater than last winter, but I hope that we will soon have nice weather.

W. H. HEIM.

Lycoming Co., Pa., March 16.

Bees Doing Well.

Last spring, I had two colonies of bees; I increased them to four, and got some honey, tho a poor season. Bees seem to be doing well, and flying freely on fine days. We are having a regular blizzard now; it has snowed all day, and is still at it—12:45 a.m.

WM. A. SHUFF.

Philadelphia Co., Pa., March 16.

Prospects Not Flattering.

I got 6,000 pounds of extracted honey last summer from 100 colonies, spring count, which sold readily at 7 cents a pound. I started in the winter with 110 colonies, and have lost 3 during the winter, so I now have 107 apparently in good condition. The prospect for a crop of honey this year is not very flattering, as I am afraid the white clover, which got such a nice start last summer, is all killed out this winter.

F. B. FARRINGTON.

Clayton Co., Iowa, March 20.

Bees Appear All Right—Bee-Proof.

My bees appear to be all right as yet. They were very lively about a week ago. I have 20 colonies outdoors. I think they are better off outdoors if they are properly cared for. I always take the cover off in the fall, and pack them in leaves, and never lost any that way. I had 17 colonies last spring, and got about 1,200 pounds of honey, comb and extracted. I extract only in the fall, then I kill all the surplus colonies that are not strong for the winter. I am going to feed as soon as they have another flight. I feed outdoors and let them go for it as they please. I have a very fine lot of Italians; if any get crost with black drones I kill them in the fall. It is no use to keep more than

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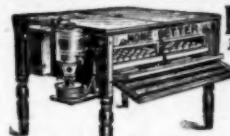
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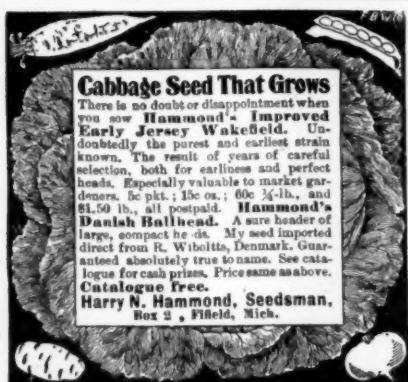
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one needs. I sometimes let them swarm and sometimes divide.

I have been used to bees about 70 years. I had a dose of their sharp ends last summer. A swarm settled on a post entangled with grape-vines. I could not brush them off, so I set the hive and sheet at the bottom of post and gave it a kick, and down went the bees, then up and at me. I stepped back; my hat and veil caught on a plum bush, and I should think half the swarm on my head, face, and all over me. I ran and dropt my head in a tub of water, went into the house and got Mrs. White to pull out the stings—about 500 or more on my face, hands, and all over. But I went and hived them afterwards, and it never swelled nor hurt me one bit. The milkman came for milk, and the bees chased him and his horses away; so you see I must be bee-proof.
HENRY WHITE.
Humboldt Co., Iowa, March 21.

A New York Report—Black Brood.

The bees are sleeping and the weather is very cold. If I recollect I promist to report the season of 1899, and will now try to do so.

In the spring of 1899 the season opened with all prospects for a good year, but ended just the reverse.

In February (1899) I came to this State, with all hopes and expectations of seeing the largest honey crop in the country, and took up my quarters with Mr. Frank Boomhower, of Schoharie County—a noted bee-keeper who has produced honey by the tons for years. I expected to engage in the bee-business as fast as means would permit, but lo, my hopes were like some of those of Rambler's—they were blasted.

After arriving at Mr. Boomhower's we began making hives and all necessary fixtures to handle a large crop of honey. Over 200 colonies of bees were bought up thru the country from farmers, and out-yards established, until at least 450 colonies had been gathered to our fold. Most of these were in box-hives and on odd-sized frames of every description. After these bees were moved to our yards a picnic began in transferring, which was playwork for us. N. E. Boomhower, the oldest son of F. Boomhower, and myself, transferred as high as 72 colonies a day from these old traps, to an up-to-date hive. No combs were transferred, but the bees were put on full sheets of foundation. All this was done and waiting for the harvest to come. We continued to manufacture extracting-supers, etc., but alas, dry weather set in and buckwheat was a small crop, and the honey crop was also small, only about 18,000 pounds being secured.

We were in the heart of that dreadful disease known as New York bee-disease, or black brood. Many called it foul brood, but some have decided not to call it foul brood, and Dr. Howard has named it black brood. Call it what you will, it is undoubtedly a very destructive disease, and has wiped out most of the bees in this neighborhood. I never saw foul brood, but from the description this so-called black brood resembles foul brood very much; it makes its appearance mostly in the unsealed larva, and at first it appears to show in the center of the white grub a small, yellowish dot on the larva, and finally this larva becomes yellow, some

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more so than others, and then it turns darker and darker, and at last is almost black, after which it dries down to an almost invisible object. It spreads as if by magic, and seems to be very contagious. As a rule it makes its appearance first among black and hybrid bees, the Italians almost always being the last to be affected. Sometimes in our yard a colony of Italians would be free from it, and in a flourishing condition, when surrounded by colonies rotten with the disease. Our bees were mostly destroyed to prevent its spread, and even water that we washed our hands in while working with the bees or honey, was not allowed to be thrown where the bees could get it. In spite of all this, over 200 colonies have been destroyed, and many hives and fixtures have been burned.

I hope and trust that the disease will die this winter, and not make its appearance again in the spring. It has caused many a man to surrender and lose practically all he had in this world to make an honest living. When and where it will stop I can't say, but I trust it has run its time, and will not appear again.

In killing the bees we used brimstone, and I wish to call the attention of Editor Root (a friend of mine) to page 122, where he enquires whether sulphur ever enrages bees. It does. We found by experience that in killing bees with sulphur, now and then a few that escape seem to attack a person very readily; also after having used brimstone in the smoker, and then filling it with fuel, it still has a decided brimstone odor, and bees hate it and show fight at once.

Our outyards were from 9 to 12 and 16 miles from home. The crop was mostly extracted honey.

With all the disappointments of last season, I shall try the bees again this year, with a view of securing a good crop of honey. P. W. STAHLMAN.

Albany Co., N. Y., Feb. 26.

Bees Breeding in the Cellar.

I hope a good many will make careful observations about breeding and not breeding in the cellar. I feel so sure that accurate work in this line will show that breeding in the cellar causes mischief, and that not to breed

HATCHING IN 10 DAYS



would be an improvement on the old way, but we can't do it. We CAN furnish an INCUBATOR that will hatch all hatchable eggs, and do it with less attention than any machine made. It does it because it is made right and has all late improvements. Sold at a low price and guaranteed. Catalogue in 5 languages, 8c. Des Moines Incubator Co., Box 78, Des Moines, Ia.

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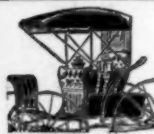
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One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens EXCLUSIVELY FOR US DURING THE

SEASON OF 1900. These Queens will be mailed in rotation, beginning about June 1, so "first come first served." We are ready to book orders now.

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2 3/4 times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for BEES THAT GET THE HONEY when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure.

Do not send any orders to Dr. Miller, as all orders MUST come thru us, according to our agreement.

Remember, send us \$1.00 for ONE NEW SUBSCRIBER to the American Bee Journal for one year, and YOU will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made only to our present regular subscribers. Orders for queens to be filled in rotation, beginning about June 1st.

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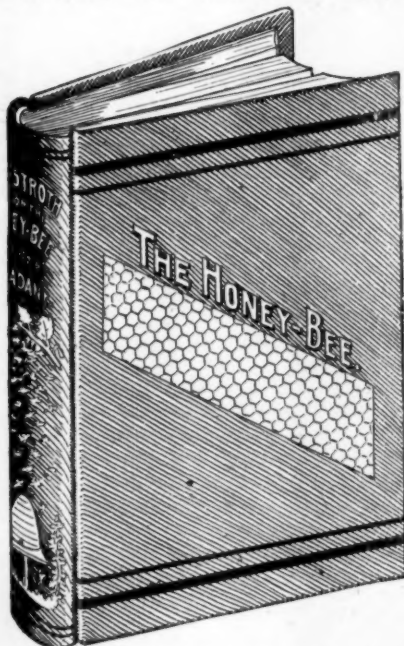
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Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the Ameri-



can Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for \$1.25, or club it with the American Bee Journal for one year—both for \$1.75; or we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with \$3.00.

This is a splendid chance to get a grand bee-work for a very little money or work.

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Adel Bees Did It!

SAN LUIS, COLO., March 2, 1900. Last spring (1899) I ordered queens from five different queen-breeders and among them one queen from you. The bees from your (Adel) queen gathered more honey than all the others put together. (Signed) S. N. SMITH, M.D.

Send for price-list.

12E2t HENRY ALLEY, Wenham, Mass.

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PACIFIC RURAL PRESS,

330 Market Street, SAN FRANCISCO, CAL.

in the cellar conserves all the forces and feed of the bees until spring, with which to outstrip those that have been breeding.

S. T. PETTIT.

Ontario, Canada, March 23.

Report for Last Season.

My bees have wintered in fine shape, and are working nicely. Last year I lost one-half of my bees on the summer stands without any protection. I had 16 left, and they averaged 66½ pounds of comb honey, and increased to 20, so I now have 36, and everything looks encouraging. I made by hand 150 hives with supers complete. I think that pretty good for a man 62 years old.

W. T. WRIGHT.

Nez Perces Co., Idaho, March 17.

Bees Wintered Well.

Bees have wintered well here. We had a good crop of honey in 1899. I increased from 6 colonies to 15, and got 380 pounds of comb honey. I have lost two colonies this winter.

W. P. BRANSON.

Decatur Co., Kan., March 16.

A Beginner's Report.

I came thru the winter of 1898 with 1 colony out of 4; in the harvest of 1899 I took off 70 one-pound sections of honey, and had no increase. I have now 3 colonies, having bought 2 at \$2.50 each.

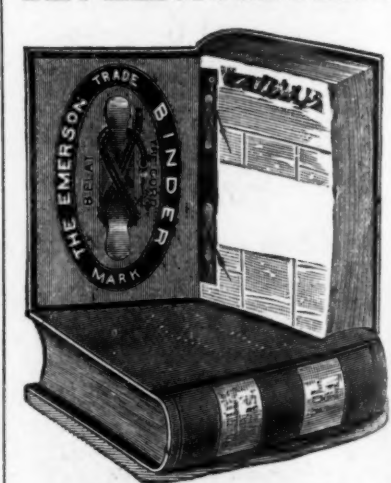
H. C. SPRINGER.

Story Co., Iowa, March 21.

Mild Winter—Beautiful Weather.

We have had a mild winter, and the weather is beautiful at present. The bees are flying strong, and are bringing in pollen; they also appear to be getting a little honey. I have had

The Emerson Binder



This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only \$1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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honey set out for over a week, and so far the bees have not touched it. The weather is like the month of May, the buds and a few blossoms are coming out and the indications are for an early dry spring; but if the irrigation waters hold out the honey-flow will be all right.

E. S. LOVESY.
Salt Lake Co., Utah, March 9.

Seem to Winter Well.

Bees seem to winter well. There is but very little sign of diarrhea, and less dead bees on the cellar-bottom than usual. The past 4 weeks we had about one foot of snow, and good sleighing, but the past week the snow turned into ice; river and creeks were full to their banks, but are going down now in this cold snap.

C. THEILMANN.
Wabasha Co., Minn., March 15.

Convention Notices.

Texas.—The Texas State Bee-Keepers' Association will hold its 22nd annual convention in Greenville, Wednesday and Thursday, April 4 and 5, 1900. A cordial invitation is extended to all. No hotel bills to pay.

Blossom, Tex. W. H. WHITE, Sec.

Chicago.—The Chicago Bee-Keepers' Association will hold its regular semi-annual meeting in Wellington Hall, 70 N. Clark St., Chicago, Ill., April 6, 1900, afternoon and evening. The meeting will be called to order at 1 p.m. Dr. C. C. Miller is expected to be present if his health will permit. Mr. E. R. Root has been invited, also Mr. N. E. France, and others. A good time may be expected by all. Let every one come, especially the ladies.

Park Ridge, Ill. HERMAN F. MOORE, Sec.

Utah.—The Utah State Bee-Keepers' Association will hold its semi-annual convention in the City and County Building, Salt Lake City, Apr. 6, 1900, at 10 o'clock a.m. A full program in the interest of the industry will be presented, and all our bee-keepers can help themselves by aiding the Association, and in order to create a closer bond of union among our bee-keepers. As a further incentive to the success of the bee-industry, it is very desirable to have our bee-keepers from all parts attend the spring convention.

J. B. FAGO, Sec.

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We have arranged to mail a neat vest-pocket Aluminum Card-Case with 100 printed Business or Visiting Cards—all for sending us ONE NEW SUBSCRIBER to the American Bee Journal for a year at \$1.00. This is indeed a rare offer. You can have anything you wish printed on one side of the card. Your name



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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, \$1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, \$1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, \$1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopaedia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, \$1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 353 pages, bound in paper covers, \$1.00.

Bienen-Kultur, by Thos. G. Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, \$1.00; for 100 colonies, \$1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

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Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 19.—We quote best white comb at 15c. An occasional small lot of fancy sells at 16c; off grades of white, 12@14c; ambers, 10@12c. Extracted, 8@9c for fancy white; 7@8c for amber; 6@7c for dark grades. Beeswax, 27c.

Receipts of honey are larger and the demand is not as good as it has been.

R. A. BURNETT & Co.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.

C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

LOS ANGELES, March 1.—1-pound frames, 12½@15c; 2-pound cans, 2 dozen in case, per dozen, \$2.50; 2-pound glass pails, per dozen, \$2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

The prospect for a crop is very bad. Small lots in the hands of wholesale houses are firmly held.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Mar. 19.—We quote fancy white comb, 15c; No. 1, 14c; No. 1 amber, 13c; No. 2 amber, 13½c. Extracted, white, 8c; amber, 7c; dark, 6c. Beeswax, 22@25c.

C. C. CLEMONS & Co.

BUFFALO, March 3.—Market nearly bare of all grades of honey. Probably no more from any source to market, but if so, fancy white comb is firm at 15@16c. Other grades from 14c downward, with the poorest at 8@9c. Fancy pure beeswax continues at 28@30c.

BATTERSON & Co.

NEW YORK, Feb. 8.—During the past 30 days our market has been somewhat slow and easy in both comb and extracted honey. Stocks of comb honey, however, are almost exhausted, and there is a fair demand for all grades. Fancy white selling at 15c; No. 1 white at 13@14c; fancy amber, 11@12c, and buckwheat at 9@11c, according to quality, etc.

Our market is well supplied with extracted, tho prices are firm and unchanged. Beeswax sells very well at from 26@28c, according to quality.

HILDRETH & SEGELKEN.

SAN FRANCISCO, Feb. 28.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Supplies and demand are both at present limited, which is to be expected at the close of a light crop year. Business doing is mostly of a small jobbing character, and at practically the same figures as have been current for some time past.

OMAHA, Feb. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values.

PEYCKE BROS.

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DROP INKY DROPS.

The perforated steel fire-grate
has 381 holes to air the fuel and
support the fire.

Prices; Heavy Tin Smoke
Engine, four-inch Stove, per
mail, \$1.50; 3½-inch, \$1.10;
three-inch, \$1.00; 2½-inch, 90
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has concluded to sell
QUEENS in their season
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1 select tested queen 1.50
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Select Tested Queen,
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Extra selected breed-
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23rd
Year

Dadant's Foundation.

23rd
Year

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faction than any other.
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ments.



We guarantee satisfaction.

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LOSS.
PATENT WEED PROCESS SHEETING.

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The Classic in Bee-Culture—Price, \$1.25, by Mail.

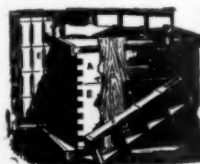
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at all times.

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bees. That results from the use of
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can. BEES AND QUEENS IN SEASON.

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